AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently amended) A method of interactively visualizing a three-dimensional data set of an object of interest, wherein the method allows for an interactive input, the method comprising the step of:

varying with a processor a rendering method in an image during the interactive input;

wherein the variation of the rendering method causes a non-uniform quality of the image; and wherein the image is ~~determined~~ generated with the processor on the basis of the three-dimensional data set;

wherein, if there is an interactive input, the image is rendered with a varying rendering method in a pre-scan mode, and

wherein, if there is no interactive input, the image is re-rendered with a constant rendering method in a full-scan mode resulting in a maximum quality of the whole image.

2. (Currently amended) The method according to claim 1, wherein~~, if there is an interactive input,~~ the image is rendered ~~with the varying rendering method~~ in [[a]] the pre-scan mode of a quality less than the quality of the whole image in the full-scan mode; and wherein, if there is no interactive input, the image is re-rendered ~~with a constant rendering method~~ in [[a]] the full-scan mode of a quality higher than the quality of the whole image in the pre-scan mode~~, resulting in a maximum quality of the whole image~~.

3. (Original) The method according to claim 2, wherein the variation of the rendering method comprises a variation of a sampling rate in the image during the interactive input; and wherein the variation of the sampling rate causes a non-uniform resolution of the image.

4. (Original) The method according to claim 1, wherein the variation of the rendering method is performed on the basis of information acquired during rendering; and wherein the information comprises information concerning the interactive input.

5. (Original) The method according to claim 3, wherein the sampling rate comprises a first sampling rate and a second sampling rate; wherein a focus area defines a first area in the image; wherein the first area is sampled with the first sampling rate; and

wherein a second area in the image is sampled with the second sampling rate.

6. (Original) The method according to claim 5, wherein a relative position of the focus area is movable with respect to the image by one of a user and an automatism based on information acquired during rendering.

7. (Original) The method according to claim 4, wherein the information comprises information selected from the group consisting of an estimation of a complexity of the data set, an availability of hardware resources, and an update speed required from a user.

8. (Original) The method according to claim 1, wherein the rendering includes a ray casting.

9. (Original) The method according to claim 8, wherein the variation of the sampling rate is performed along a ray applied in the ray casting.

10. (Currently amended) A data processing device, comprising:

a memory for storing a three-dimensional data set of an object of interest;

a data processor for performing an interactive visualization of the three-dimensional data set, wherein the interactive visualization allows for an interactive input, wherein the data processor is adapted for performing the following operation:

loading the three-dimensional data set;

varying a rendering method in an image during the interactive input;

wherein the variation of the rendering method causes a non-uniform resolution of the image; ~~and~~

wherein the image is ~~determined~~ generated on the basis of the three-dimensional data set; and

wherein, if there is an interactive input, the rendering method is a pre-scan mode having a resolution less than a resolution of a full-scan mode; and

wherein, if there is no interactive input, the rendering method is in the full-scan mode.

11. (Currently amended) The data ~~Data~~ processing device according to claim 10, wherein~~, if there is an interactive input, the three-dimensional data set is rendered with the varying rendering method in a~~ the pre-scan mode resolution less is less than a maximum resolution; and ~~wherein, if there is no interactive input, the three-dimensional data set is re-rendered with a full rendering method in a~~ the full-scan mode~~, resulting in a~~ resolution is the maximum resolution ~~of the whole image; and wherein the variation of the rendering method is performed on the basis of information acquired during rendering; and wherein the information comprises information concerning the interactive input~~.

12. (Currently amended) A scanner system, comprising:

a memory for storing a three-dimensional data set of an object of interest;

a data processor for performing an interactive visualization of the three-dimensional data set, wherein the interactive visualization allows for an interactive input, wherein the data processor is adapted for performing the following operation:

loading the three-dimensional data set;

varying a rendering method in an image during the interactive input;

wherein the variation of the rendering method causes a non-uniform quality of the image; and wherein the image is ~~determined~~ generated on the basis of the three-dimensional data set;

wherein, if there is an interactive input, the image is rendered with a varying rendering method in a pre-scan mode of a quality less than a maximum quality of the whole image, and

wherein, if there is no interactive input, the image is re-rendered with a constant rendering method in a full-scan mode resulting in the maximum quality of the whole image.

13. (Original) A scanner system according to claim 12, wherein the scanner system is one of a CT scanner system and a MR scanner system.

14. (Currently amended) A computer-readable medium ~~program product~~ containing instructions for performing an interactive visualization of a three-dimensional data set of an object of interest, wherein the interactive visualization allows for an interactive input, wherein the ~~computer program product causes~~ instructions cause a data processor to perform the following operation when the ~~computer program is~~ instructions are executed on the data processor:

loading the three-dimensional data set;

varying a rendering method in an image during the interactive input;

wherein the variation of the rendering method causes a non-uniform quality of the image; ~~and~~

wherein the image is ~~determined~~ generated on the basis of the three-dimensional data set;

wherein, if there is an interactive input, the image is rendered with a varying rendering method in a pre-scan mode of a quality less than the maximum quality of the whole image, and

wherein, if there is no interactive input, the image is re-rendered with a constant rendering method in a full-scan mode resulting in the maximum quality of the whole image.

15. (New) The device of claim 10, wherein the variation of the rendering method comprises a variation of a sampling rate in the image during the interactive input; and wherein the variation of the sampling rate causes a non-uniform resolution of the image.

16. (New) The device according to claim 15, wherein the sampling rate comprises a first sampling rate and a second sampling rate; wherein a focus area defines a first area in the image; wherein the first area is sampled with the first sampling rate; and

wherein a second area in the image is sampled with the second sampling rate.

17. (New) The device according to claim 16, wherein a relative position of the focus area is movable with respect to the image by one of a user and an automatism based on information acquired during rendering.

18. (New) The device according to claim 11, wherein the information comprises information selected from the group consisting of an estimation of a complexity of the data set, an availability of hardware resources, and an update speed required from a user.

19. (New) The method according to claim 1, wherein the image is generated from a single three-dimensional data set.

20. (New) The method according to claim 19, wherein the single three-dimensional data set includes data from a single imaging modality.